

schoenoides (L.) Host. Icon. Gram. Austr. 1: 23. 1801. Hook. f. Fl. Brit. Ind. 7: 235. 1896. Fig. 1.

Annual or perennial herbs. Culms tufted, terete, 3-18 cm long, creeping, decumbent; nodes glabrous. Leaves: sheaths compressed, keeled, striate, margins hyaline, ciliate near the apex, ligule ciliate, 0.8-1 mm long, blades linear-lanceolate, 0.5-5 x 0.1-0.4 cm, sparsely hispid with tubercle based hairs, margins scaberulous, apex acute. Panicles compressed, compact, short, spicate, ovate-oblong, 0.4-0.8 cm long, concealed in the sheaths, rachis slender, pedicels short. Spikelets linear-lanceolate, 2-3 mm long, laterally compressed. Lower glume membranous, linear, 2-2.2 mm long, 1-nerved, keeled, keels ciliate, apex acute. Upper glume membranous, ovate-lanceolate, 2.4-3 mm long, 1-nerved, keeled, keels ciliate, apex acute. Lemma membranous, ovate-lanceolate, 2.4-3 mm long, 1-nerved, keeled, apex acute. Palea hyaline, ovate-oblong, 2.2-2.5 mm long, nerveless, keeled, apex obtuse. Lodicules 2, minute. Stamens 3; anthers 0.4-0.6 mm long. Grain oblong, 1.3-1.6 mm long.

Rare near moist places.

Fl. & Fr.: September-December.

Specimen examined: *Patil* 8987, Satara city, Satara district.

2. *Poa annua* L., Sp. Pl. 68. 1-1753; Hook. f., Fl. Brit. Ind. 7: 345. 1896; Bor Grass. Bur. Cey. Ind. Pak. 547. 1960. Fig. 2.

Annual herbs. Culms tufted, terete, erect or ascending. 5-30 cm high, simple or sparingly branched; nodes glabrous. Leaves: sheaths subcompressed, glabrous, ligule membranous, 1.5-3.5 mm long; blades flat, oblong-lanceolate. 1-10 x 0.1-0.5 cm, glabrous, margins

scaberulous; apex acute. Panicles pyramidal, 2.5-7 cm long; rachis slender, glabrous, branches filiform. Spikelets ovate-oblong, 3.5-7 x 1-3 mm long, 3-6 flowered. Lower glume chartaceous, lanceolate, 1.5-2 mm long, 1-nerved, glabrous; apex subacute. Upper glume chartaceous, oblong-elliptic, 2-3 mm long, 3-nerved, glabrous; apex obtuse. Lemma chartaceous, elliptic-oblong, 2-3 mm long, 5-nerved, keeled, keels ciliate; apex obtuse. Palea chartaceous, oblong-lanceolate 1.5-2.2 mm long, keeled, keels ciliate; apex toothed. Lodicules 2. Stamens 3; anthers 0.5-1 mm long.

Rare, found growing in strawberry plantations at high altitudes.

Fl. & Fr.: August-November.

Specimen examined: *Salunkhe* 8900, Mahabaleshwar, Satara district.

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49. TOXIC PHANEROGAMIC PLANTS OF MANIPUR

Manipur, a tiny state in northeast India, has luxuriant natural flora and fauna. The indigenous people of Manipur have been using natural products of plants for food, medicine and

house construction. Primitive man, in his quest for plants that could provide food, after trial and error, identified poisonous plants. Many medicinal plants are also poisonous. The effect

varies, depending upon the individual and the dose taken. However, highly poisonous plants are those that induce fatal consequences immediately, or by the cumulative action of the toxic content even when a small quantity is taken (Long 1992). Toxic plants may be classified broadly into three main groups (Thothathri 1985).

- i) Poisonous to men and livestock
- ii) Poisonous to fishes
- iii) Insect repellent plants

Poisonous plants are probably responsible for greater losses in farm livestock than is commonly believed. Sometimes they may cause illness and death of human beings, particularly villagers who mainly depend on wild plants for food. From the herbal medicinal practitioners (Maibas), the traditional use of arrows poisoned with extracts of *Arum maculatum* L., use

of rootstock for poisoning wild animals and fowls in hunting or for selfprotection, can be traced to the tribal population (Sinha 1996). Mass food poisoning of some villagers due to consumption of wrong combinations of otherwise edible wild plants as vegetables, also reveals the poisonous nature of some plants.

Many villages, mainly the valley and some parts of the hills of Manipur were surveyed by us for poisonous plants. The information on the toxic effects of the plants was obtained through village elders and priests commonly known as Maibas (herbal practitioners). During the survey, the plant parts having toxic effects were collected and preserved on herbarium sheets. Species were identified with the help of the Botanical Survey of India, Shillong, Meghalaya. The Latin names, local names and family of the collected plant species are listed in Table 1.

TABLE I
POISONOUS PHANEROGAMIC PLANTS OF MANIPUR

Sl. No.	Latin name	Local name	Family
1.	<i>Abrus precatorius</i> Linn.	Chaning (M)	Malvaceae
2.	<i>Acacia pruinescens</i> Kurz	Te-bam (Naga)	Mimosaceae
3.	<i>Aconitum nazarum</i>	—	Helloboraceae
4.	<i>Acronychia pedunculata</i> Miq.	Khanghailak (Kuki)	Rutaceae
5.	<i>Adenium obesum</i>	—	Lauraceae
6.	<i>Aegle marmelos</i> Correa ex Roxb.	Heirikhagok (M)	Rutaceae
7.	<i>Agave americana</i> Linn.	Kewa (M)	Agavaceae
8.	<i>Antidesma bunius</i> Spreng	—	Euphorbiaceae
9.	<i>Arisaema tortuosum</i> Schott	Lincheishu (M)	Araceae
10.	<i>Asclepias curassavica</i> Linn.	Krishnachura (M)	Asclepiadaceae
11.	<i>Begonia palmata</i> D. Don	Banhang (Rongmei)	Begoniaceae
12.	<i>Begonia picta</i> Smith	Banhang (Rongmei)	Begoniaceae
13.	<i>Blumea balsamifera</i> Linn.	Langthrei (M)	Asteraceae
14.	<i>Blumea densiflora</i> DC	Karpoor (M)	Asteraceae
15.	<i>Commelina padulosa</i> Bl.	Wangden khoibi (M)	Commelinaceae
16.	<i>Cannabis sativa</i> Linn.	Ganja (M)	Cannabinaceae
17.	<i>Catharanthus roseus</i> Linn	Kundalei (M)	Apocynaceae
18.	<i>Coriaria nepalensis</i> Wall	Guipam (Tangkhal)	Coriariaceae
19.	<i>Crotalaria mucronata</i> Derv. Sen (H)	—	Papaveraceae
20.	<i>Dalbergia stipulacea</i> Roxb.	—	Papilionaceae
21.	<i>Datura stramonium</i> Linn.	Sagol hidak (M)	Solanaceae
22.	<i>Derris ferruginea</i> Benth	Kho (M)	Papilionaceae
23.	<i>Eclipta prostrata</i> Linn. Syn. <i>E. alba</i> (Linn) Hasak	Oochisumbal (M)	Asteraceae
24.	<i>Entada phaseoloides</i> Merrill	Kangkhal (M)	Mimosaceae
25.	<i>Erythroxylum coca</i> Linn.	—	Erythroxylaceae
26.	<i>Eupatorium odoratum</i> Linn	Kambilei (M)	Asteraceae

MISCELLANEOUS NOTES

TABLE I (CONTD.)
POISONOUS PHANEROGAMIC PLANTS OF MANIPUR

Sl. No.	Latin name	Local name	Family
27.	<i>Euphorbia pulcherrima</i> Willd ex Klotzsch	Lalpata (M)	Euphorbiaceae
28.	<i>Gloriosa superba</i> Linn.	Karihari (M)	Liliaceae
29.	<i>Gynocardia odorata</i> R. Br.	—	Flacourtiaceae
30.	<i>Hedyotis scandens</i> R. Br.	—	Rubiaceae
31.	<i>Helminthostachys zeylanica</i>	Hook (M)	Ophioglossaceae
32.	<i>Holigarna longifolia</i> Buch. Ham. ex Roxb.	Kherai (M)	Anacardiaceae
33.	<i>Hydnocarpus kurzii</i> (King) Warb	Uhan (M)	Flacourtiaceae
34.	<i>Ipomoea carnea</i> Jaq.	—	Convolvulaceae
35.	<i>Jatropha gossypifolia</i> Linn.	Kege manbi (M)	Euphorbiaceae
36.	<i>Lyonia ovalifolia</i> (Wall) Drude	Tlangham (Mizo)	Ericaceae
37.	<i>Meconopsis aculeata</i> Royle	—	Papaveraceae
38.	<i>Mikania cordata</i> (Burm) B.L. Robinson	Urihingehabi (M)	Asteraceae
39.	<i>Millettia extensa</i> Benth ex. Baker	—	Fabaceae
40.	<i>M. pachycarpa</i>	Ngamuyai (M)	Fabaceae
41.	<i>Myrica esculenta</i> Buch. Ham.	Kaiphai (H & B)	Myricaceae
42.	<i>Nerium indicum</i> Linn.	Kabirei (M)	Apocynaceae
43.	<i>Nicandra physaloides</i> (Linn.) Gaertn	—	Solanaceae
44.	<i>Nicotiana tabacum</i> Linn.	Hidakmana (M)	Solanaceae
45.	<i>Ocimum gratissimum</i> Linn.	Ramtulasi (M)	Lamiaceae
46.	<i>Opuntia dillenii</i> Haw	Meipokpi (M)	Cactaceae
47.	<i>Pancratium zeylanicum</i> Linn.	—	Amaryllidaceae
48.	<i>Pandanus odoratissimus</i> Linn.	Ketukee (M)	Pandanaceae
49.	<i>Papaver dubium</i> Linn.	—	Papaveraceae
50.	<i>P. medicaule</i> Linn.	—	Papaveraceae
51.	<i>P. orientale</i> Linn.	—	Papaveraceae
52.	<i>Paspalum scrobiculatum</i> Linn.	Kodo (H)	Poaceae
53.	<i>Passiflora assamica</i> Chakravarty	Lamradhikanachom (M)	Passifloraceae
54.	<i>P. foetida</i> Linn.	Lamradhikanachom (M)	Passifloraceae
55.	<i>Pedilanthus teithymaloides</i> Linn. Poit	—	Euphorbiaceae
56.	<i>Pericampylus glaucus</i> (Lam.) Merr.	Barakanta (H & B)	Menispermaceae
57.	<i>Phyllanthus urinaria</i> Linn.	Chakpa heikru (M)	Euphorbiaceae
58.	<i>Phytolacca acinosa</i> Roxb.	Salad (M)	Phytolaccaceae
59.	<i>Pinus insularis</i> Syn. <i>P. khasiana</i> Linn.	Uchan (M)	Pinaceae
60.	<i>Pithecellobium clypearia</i> Benth Syn. <i>P. angulatum</i> Benth	Ardahpuri (Mizo)	Mimosaceae
61.	<i>Plumeria acuminata</i> Ait. Syn. <i>P. rubra</i> Linn.	Khagi leihao (M)	Apocynaceae
62.	<i>Polygonum chinense</i> Linn.	Angom yensil (M)	Polygonaceae
63.	<i>P. hydropiper</i> Linn.	Lilhar (M)	Polygonaceae
64.	<i>P. laphathifolium</i> Linn.	Chakhongmanba (M)	Polygonaceae
65.	<i>P. minus</i> Huds	Chakhong macha (M)	Polygonaceae
66.	<i>P. orientale</i> Linn.	Chakhong (M)	Polygonaceae
67.	<i>P. strigosum</i> R. Br.	—	Polygonaceae
68.	<i>Pongamia pinnata</i> Pierre	Karanj (B & H)	Fabaceae
69.	<i>Potentilla sundaica</i> Kuntze	—	Rosaceae
70.	<i>Prunus ceylanica</i> (Wight) Miq.	—	Rosaceae
71.	<i>Randia spinosa</i> Poin	Mainphal (H & B)	Rosaceae

MISCELLANEOUS NOTES

TABLE I (CONTD.)
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Sl. No.	Latin name	Local name	Family
72.	<i>Ranunculus scleratus</i> Linn.	Kakyel khujil (M)	Ranunculaceae
73.	<i>Rhododendron arboreum</i> Sm.	Kharamlaisok angangba (M)	Ericaceae
74.	<i>Sapindus trifoliatu</i> s Linn.	Kekru (M)	Sapindaceae
75.	<i>Scirpus lacustris</i> Linn.	Kouna (M)	Cyperaceae
76.	<i>Senecio chrysanthemoides</i> DC.	—	Asteraceae
77.	<i>Setaria italica</i> (Linn.) Beauv.	Hoop (M)	Poaceae
78.	<i>Sida acuta</i> Burm f.	Uhal (M)	Poaceae
79.	<i>Solanum spirale</i> Roxb.	Lam khamen (M)	Solanaceae
80.	<i>Solanum torvum</i> Swartz	Shingkhanga (M)	Solanaceae
81.	<i>Sonchus branchiotus</i> DC. Syn. <i>S. arvensis</i> Linn.	Khomthokpi (M)	Asteraceae
82.	<i>Sphaeranthus indicus</i> Linn.	Mundi (H & B)	Asteraceae
83.	<i>Spilanthes acmella</i>	—	Asteraceae
84.	<i>S. oleracea</i> Murr.	—	Asteraceae
85.	<i>Stellaria media</i> Grimm.	Yerrum keirum (M)	Cariophyllaceae
86.	<i>Taxus baccata</i> Linn.	Common Yew (M)	Taxaceae
87.	<i>Tephrosia candida</i> DC.	Lasita (H)	Fabaceae
88.	<i>T. purpurea</i> Pers.	Dhamasia (H)	Fabaceae
89.	<i>Thevetia peruviana</i> (Pers.) Merr.	Utonglei (M)	Apocynaceae
90.	<i>Thuja occidentalis</i> Linn.	—	Cupressaceae
91.	<i>Trichosanthes wallichiana</i> (Ser) Wight Syn. <i>T. multiloba</i> Clarke	—	Cucurbitaceae
92.	<i>Wallichia densiflora</i> Mark.	—	Arecaceae
93.	<i>Xanthium stromarium</i> Linn.	Hameng sampaki (M)	Asteraceae
94.	<i>Xylosma longifolia</i> Clos	Nongleisang (M)	Flacourtiaceae
95.	<i>Zanthoxylum armatum</i> DC.	—	Rutaceae
96.	<i>Z. nitidum</i> (Roxb.) DC.	—	Rutaceae
97.	<i>Clerodendron siphonanthus</i>	Charoiutong (M)	Verbenaceae
98.	<i>Nerium indicum</i> Mill	Kabirei (M)	Apocynaceae
99.	<i>Hydrosome reverei</i>	Leen cheisu (M)	Araceae
100.	<i>Sauramatum guttatum</i>	Leen cheisu (M)	Araceae
101.	<i>Euphorbia tericulii</i>	Hu pambi (M)	Euphorbiaceae
102.	<i>E. antiquarum</i> Linn.	Tengnou (M)	Euphorbiaceae
103.	<i>Fleurya interrupta</i> Gaudich.	Santhak	Urticaceae
104.	<i>Adhatoda vasica</i> Nees	Nongmangkha (M)	Acanthaceae

In Manipur, some taxonomical work has been done, but toxic plants have not been studied so far. This list could help in the biochemical analysis of the medicinal or toxic plants of Manipur.

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